

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. **(Currently Amended)** A peptide consisting of 18 amino acids, the peptide having the primary structure: 8 AA – Cysteine – 2 AA – Citrulline – 1 AA – Cysteine – 4 AA (SEQ ID NO:4); wherein the peptide comprising a sequence of 14-50 amino acids characterised in that
— it} contains a peptide turn comprising at least one citrulline residue, and
[— it contains less than 12 amino acids between two cysteine residues, with said citrulline residue being one of the amino acids between said cysteine residues and
— } wherein said peptide is specifically recognised by rheumatoid arthritis autoimmune antibodies from patients suffering from rheumatoid arthritis.
2. (Original) A peptide according to claim 1 characterised in that said peptide is a cyclic peptide.
3. (Previously Presented) A peptide according to claim 1 characterised in that said peptide is biotinylated.
4. (Previously Presented) A peptide according to claim 1 characterised in that said peptide is a synthetic peptide.
- 5.-7. (Cancelled)
8. **(Currently Amended)** A peptide according to claim 1 characterised in that the amino acids flanking the citrulline residue are selected from glycine and serine [do not interact with the citrulline side chain].
9. **(Currently Amended)** A peptide according to claim 1 comprising the amino acid sequence [QDTIHGHPCSXGXHRCGY (SEQ ID NO: 7), or
QDTIHGHPCSSXGHRCGY (SEQ ID NO: 8), or
QDTIHGHPCSXGXHQCGY (SEQ ID NO: 9), or
QDTIHGHPCSXGXHRCGQ (SEQ ID NO: 10), or

QDTIHGHPCSXXGHQCGQ (SEQ ID NO: 11), or]
QDTIHGHPCSXXGCRPGY (SEQ ID NO: 12)], or
— ~~HGHPCSXXGHRCGY (SEQ ID NO: 13)~~, or
— ~~HGHPCSXXGCRPGY (SEQ ID NO: 14)~~, or
— ~~HGHGCDXXGHRCGQ (SEQ ID NO: 15)~~, or
— ~~HGHGCDSXGHRCGQ (SEQ ID NO: 16)~~, or]
QDTIVWGCDSXGCRPGQ (SEQ ID NO: 17), or
— ~~VGWGCDSXGCRPGQ (SEQ ID NO: 18)~~].

10.-11. (Cancelled)

12. (Previously Presented) A diagnostic kit for use in detecting rheumatoid arthritis, said kit comprising at least one peptide according to claim 1, with said peptide or antibody optionally bound to a solid support.

13. (Previously Presented) A diagnostic kit according to claim 12, said kit comprising a range of peptides according to claim 1, optionally in combination with antigens that constitute immunogenic determinants for other auto-immune diseases, wherein said peptides are attached to specific locations on a solid substrate.

14. (Previously Presented) A diagnostic kit according to claim 13, wherein said solid support is a membrane strip.

15.-17. (Cancelled)

18. (Previously Presented) An immunotoxin molecule comprising a cell recognition molecule being a peptide of claim 1, covalently bound to a toxin molecule or active fragment thereof.

19. (Cancelled)

20. (Previously Presented) A diagnosticum for rheumatoid arthritis comprising a peptide according to claim 1 or an immunotoxin molecule according to claim 18.

21.-22. (Cancelled)

23. (Previously Presented) A method for detecting antibodies present in sera from patients with rheumatoid arthritis, comprising:

- a) contacting a biological sample to be analyzed for the presence of said antibodies with a peptide of claim 1, and
- b) detecting the immunological complex formed between said antibodies and said peptide.

24.-27 (Cancelled)

--28. (New) The method of claim 23 wherein the peptide has the amino acid sequence QDTIHGHPCSXXGCRPGY (SEQ ID NO: 12).

29. (New) The method of claim 23 wherein the peptide has the amino acid sequence QDTIVGWGCDSXGCRPGQ (SEQ ID NO: 17).--